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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,465	06/25/2003	Edward Barkan	1301A	3237

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EXAMINER
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WALSH, DANIEL I

ART UNIT	PAPER NUMBER
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2876

DATE MAILED: 01/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/603,465

Applicant(s)

BARKAN ET AL.

Examiner

Daniel I Walsh

Art Unit

2876

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Replace “molded dynamic motor parts 401” and “static motor parts 402” with -- rotor 401 -- and -- stator 402 --.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: electronics 122 and controller 124 (page 12, line 25). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 11-13 and 15-18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quinn et al. (US 5,629,510).

Re claim 11, Quinn et al. teaches a stator with a pair of stator portions (stator 29 with end portions) and a rotor with a pair of rotor portions (rotor 2 with end portions) both symmetrically positioned relative to an axis of symmetry. Quinn et al. teaches a pair of elastomeric springs (40, 42, 44, 46; flexures which are interpreted to include springs as is conventional in the art) symmetrically positioned relative to the axis of symmetry and extending in mutual parallelism between the stator portions and the rotor portions, the springs, the stator portions and the rotor portions lying in a common plane. Quinn et al. teaches a scan mirror 20 mounted on the rotor at one side of the common plane; a drive including a permanent magnet on the opposite side of the common plane for moving the rotor and the scan mirror about an axis of oscillation which extends perpendicular to the axis of symmetry.

Quinn et al. teaches that the magnet is mounted on the stator, and therefore does not teach that the magnet is mounted on the rotor.

However, Quinn et al. teaches that the coil 39 is mounted on the back of rotor 22 and disposed so that segments 69 and 71 are intersected by the axis of magnets 36 and 38 to allow for controlling of initiating of scanning. Further, Quinn et al. teaches the use of one magnet for instances of continuous scanning, where it is obvious to the examiner that either the coil or the magnet could be attached in working relation with the rotor, such modification producing predictable results and being an obvious design variation as an alternative means to effect the movement/oscillation through a magnet/coil relationship.

Therefore, at the time the invention was made, it would have been an obvious matter of design variation to switch the location of the coil with that of the magnet(s) (so that the magnet is on the rotor), since it appears that such a orientation proposed by the applicant does not solve a stated problem and is not for a particular purpose that can not be met with the prior art teachings. Accordingly, it appears the invention would perform equally well and produce predictable results with either orientation, since it is well known in the art to use magnets and coils to create magnetic fields for creating an oscillation for a scan. Accordingly, the arranging of the magnet/coils is well within the skill in the art.

Re claim 12, though Quinn et al. is silent to the use of leaf springs, leaf springs are well known and conventional in the art, and therefore an obvious expedient for flexible members in a scanning device.

Re claim 13, Quinn et al. teaches the use of jam clips 48, 50, 52, 54 which secures the flexures to the posts, and via FIG. 9-12 it appears that apertures in the springs/flexures are used to secure over the post 50. At the time the invention was made, it would have been obvious to

use apertures to receive the springs, as a well known and conventional securing means to secure the springs/flexures to the post.

Re claim 15, Quinn et al. teaches the mirror positioned at the axis of oscillation (FIG. 5).

Re claim 16, Quinn et al. teaches the use of one magnet instead of a pair, in instances where continuous scanning is desired (col 6, lines 20+). In such an instance, it would be obvious to an artisan of ordinary skill in the art to center the one magnet at the axis of oscillation for symmetry purposes, balancing, etc. in order to produce a magnetic field effect that would produce equal oscillation/movement in each direction for the rotor.

Re claim 17, Quinn et al. teaches the mounting of the mirror on the rotor at an angle close to 45 degrees (FIG. 8). Though Quinn et al. is silent to 45 degrees, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made, to set the angle at 45 degrees since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617, F.2d 272, 205 USPQ 215 (CCPA 1980). The setting of the angle to 45 degrees is obvious to produce predictable results such as a desired scan/beam.

Re claim 18, Quinn et al. teaches the stator includes a pair of bracket arms symmetrically positioned relative to the axis of symmetry (FIG. 5) where the arm pieces of the stator are interpreted as bracket arms.

Re claim 20, Quinn et al. teaches that the mirror and magnet are between the springs (FIG. 5).

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Quinn et al., as applied to claim 11 above, further in view of House et al. (US 4,684,202).

The teachings of Quinn et al. have been discussed above.

Quinn et al. is silent to overmolding.

Although Quinn et al. is silent to the use of overmolded materials constituting the springs, it is well known and conventional to overmold flexible members for strength purposes/durability.

House et al. teaches the use of overmolding for strength/rigidity in flexible applications (col 1, lines 1+).

Consequently, at the time the invention was made, it would have been obvious to an artisan of ordinary skill in the art to combine the teachings of Quinn et al. with those of House et al.

One would have been motivated to overmold the springs in order to provide a rigid/durable spring without compromising flexibility. Though House et al. is drawn to electrical connectors, House et al. still addresses the issues of overmolding of flexible elements, and therefore is seen as pertinent and analogous art.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Quinn et al., as applied to claim 11 above, further in view of Kunii (US 5,420,713).

The teachings of Quinn et al. have been discussed above.

Quinn et al. is silent to a counterbalance between the springs, attached to the rotor.

Though Quinn et al. is silent to a counterbalance of the rotor (between the springs in order to fit within the module), the use of counterbalances are well known and conventional in the art (see Grosfeld US 5,581,067).

Kunii teaches the use of counterbalances on a rotor (col 2, lines 17+). of the rotor (between the springs) in order to ensure stable and reliable scanning.

At the time the invention was made, it would have been obvious to an artisan of ordinary skill in the art to combine the teachings of Quinn et al. with those of Kunii.

One would have been motivated to do this to balance devices that rotate for durability/longevity and accuracy, and such balancing can be achieved through counterbalances or specific design requirements, as is well known and conventional in the art. One would have been motivated to place the counterbalance between the springs, in order to fit into the small assembly of Quinn et al.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Grosfeld et al. (US 5,581,067).

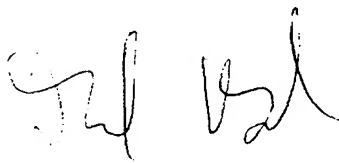
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Walsh whose telephone number is (703) 305-1001 or (571) 272-2409 (as of January 15, 2004). The examiner can normally be reached between the hours of 7:30am to 4:00pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (703) 305-3503 or (571) 272-2398 (as of January 15, 2004). The fax phone numbers for this Group is (703) 872-9306, (703) 308-7724, or (703) 308-7382.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [daniel.walsh@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



DW  
1/8/04



KARL D. FRECH  
PRIMARY EXAMINER